

# Notice of Allowability

Application No.

09/868,845

Examiner

Gordon J. Stock

Applicant(s)

MUELLER ET AL.

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed September 27, 2006.
2. ☒ The allowed claim(s) is/are 23-38, 40-42, 44-49, 51-59.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other PTOL-413B.

### DETAILED ACTION

1. The Amendment on September 27, 2006 have been entered into the record.

### EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Robert Downs on October 12, 2006. See attached PTOL-413b. The amended **claim 26** and amended abstract follow.

Amended claim:

26. (Currently Amended) Method according to claim 25 wherein the auxiliary focus for obtaining a smaller extension of the confocal detected ~~detective~~ volume of the auxiliary focus is generated by a second objective having a numeric aperture which is larger than the numeric aperture of the first objective used for generating the measuring volume.

Amended abstract:

### ABSTRACT

The invention relates to a method for optically detecting at least one entity which is arranged on and/or in a substrate (60) ~~preferably being arranged on a support (61), said substrate (60) having a refraction index which is different from the one of the at least one component adjacent to the~~

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~~substrate (60). The at least one entity is scanned with a measuring volume (70) using at least one radiation source (10) and a confocal optic, (32) or an optic (32) made for multi-photon excitation, thereby receiving measuring values of optical parameters which are processed by means of signal processing for characterization of the at least one entity. Said entity substantially maintains its position in respect to the substrate (60) or the support (61) for the duration of the recording. Before and/or during the~~ During a scanning process an auxiliary focus (71) is generated by means of at least one second radiation source (11) and an a second optic (34); said auxiliary focus (71) is at least partly arranged on the interface (62) between substrate (6)) and adjacent component or on another interface (62) having a defined special relation to said entity. Radiation generated by the first radiation source is collimated by a first optic and radiation generated by the second radiation source is collimated by a second optic. A retroreflection from the auxiliary focus is detected by at least one detector (21) and is used to measuring the position of the an interface (62) and, thus, for indirectly positioning the measuring volume (70). In the method according to the invention, the The position of the auxiliary focus (71) relative to the measuring volume (70) is adjustable in a defined manner. Thus, possible applications of the method as well as an apparatus for performing said method are described.

*Allowable Subject Matter*

3. **Claims 23-38, 40-42, 44-49, and 51-59** are allowed.

The following is an examiner's statement of reasons for allowance:

As to **claims 23 and 37** the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of optically detecting at least one entity generating an auxiliary focus by means of at least one second radiation source and a second objective and in

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apparatus for optically detecting at least one entity at least a second radiation source as well as at least one further device comprising a second objective, in combination with the rest of the limitations of **claims 23, 25-37, 40-42, 44, and 46.**

As to **claim 24** the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of optically detecting at least one entity the auxiliary focus relative to the interface is moved and the position is adjusted in a manner that the intensity of the retroreflection reaches its maximum, in combination with the rest of the limitations of **claims 24, 45, 47, 48, 52, 54, 57, and 58.**

As to **claim 38**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in an apparatus for optically detecting at least one entity means for variation of the convergence of bundles of rays that are focused to generate the auxiliary focus and the measuring volume, in combination with the rest of the limitations of **claims 38 and 59.**

As to **claim 49**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of optically detecting at least one entity obtaining the small extension of the confocal detected volume by a diaphragm having a smaller opening than a confocal arranged diaphragm for the detection of the measuring volume, in combination with the rest of the limitations of **claim 49.**

As to **claim 51**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of optically detecting at least one entity the auxiliary focus is moved both laterally and axially to the optical axis, in combination with the rest of the limitations of **claim 51.**

As to **claim 53**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of optically detecting at least one entity the retroreflection is detected by means of at least two detectors, in combination with the rest of the limitations of **claim 53**.

As to **claim 55**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of optically detecting at least one entity the particular step of detecting a retroreflection by a detector having a confocal arranged diaphragm or by a plurality of detectors having diaphragms, in combination with the rest of the limitations of **claim 55**.

As to **claim 56**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of optically detecting at least one entity the entities selected are separated during or after the scanning process from the other entities and/or substrates, in combination with the rest of the limitations of **claim 56**.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent 5,260,578 to Bliton et al.

U.S. Patent 6,320,196 to Dorsel et al.

U.S. Patent 6,388,788 to Harris et al.

U.S. Patent 6,486,458 to Schoeppe et al.

*Fax/Telephone Numbers*

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

*Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (571) 273-8300*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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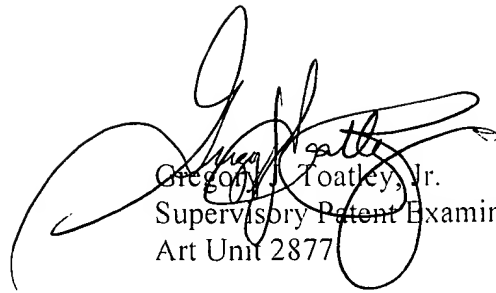
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November 17, 2006



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Supervisory Patent Examiner  
Art Unit 2877